

Amendments To The Claims

A complete list of all the presently or formerly pending claims in the application is provided below, with suitable headings to show the status of each claim and, where appropriate, its current text. This listing of claims will replace all prior versions, and listings of claims in this application.

Listing of Claims

1. (Currently amended) A DNA construct ~~to generate and direct the processing, targeting and stably accumulating of~~ capable of expressing target proteins in transgenic plant seeds, comprising:

a seed-specific promoter sequence ~~capable of directing expression in cells of the plant seeds~~;

a first DNA sequence encoding the target proteins;

a second DNA sequence having a transmembrane domain sequence of BP-80 and a cytoplasmic tail sequence of BP-80 or α -TIP which serve as anchors for delivering the target proteins to subcompartments of protein storage vacuoles of ~~the cells of the plant seeds~~; and

a third DNA sequence functioning as a termination region in the plant,

wherein the promoter is operably linked to the first DNA sequence, the first DNA sequence is operably linked to the second DNA sequence, and the second DNA sequence is operably linked to the third DNA sequence.

2. (Cancelled).

3. (Currently amended) The DNA construct of claim-2 1, wherein the promoter includes a phaseolin promoter or a glutelin Gt1 promoter.

4. (Cancelled)

5. (Cancelled).

6. (Cancelled).
7. (Original) The DNA construct of the claim 1, wherein the subcompartments include globoids or crystalloids.
8. (Original) The DNA construct of claim 1, wherein the third DNA sequence is an NOS terminator.
9. (Currently amended) The DNA construct of claim 1, further comprising a proteolytic cleavage spacer sequence operably linked to ~~in front of~~ the transmembrane domain sequence so that the anchor does not affect proper folding of the target proteins, wherein the spacer sequence comprises SKTASQAK (SEQ ID NO: 8).
10. (Cancelled).
11. (Cancelled).
12. (Cancelled).
13. (Currently amended) The DNA construct of claim ~~11~~ 9, wherein the protein storage vacuoles and their subcompartments provide a protease activity acting with the proteolytic cleavage sequence so that the target protein separates from the transmembrane domain.
14. (Cancelled).
15. (Currently amended) The DNA construct of claim 10, further comprising an engineered signal peptide sequence operably linked to the first DNA sequence, wherein the signal peptide

sequence is selected from the group consisting of a proaleurain signal peptide, a barley cysteine protease aleurain signal peptide, and a rice storage protein glutelin signal peptide.

16. (Cancelled).

17. (Currently amended) ~~[[A]]~~ An expression system comprising a vector and comprising a
the DNA construct as defined in claim 1.

18. (Currently amended) A host cell comprising a the vector expression system as defined in
claim 17.

19. (Original) The host cell of claim 18, wherein the host cell is a plant cell.

20. (Original) The host cell of claim 19, wherein the plant cell is a monocot cell or a dicot
cell.

21. (Currently amended) A transgenic plant or progeny thereof comprising a the DNA
construct as defined in claim 1.

22. (Currently amended) A transgenic plant seed comprising a the DNA construct as defined
in claim 1.

23. (Currently amended) A method for constructing a transgenic plant comprising the steps
of:

- a) constructing an expression system comprising a vector including a and the DNA
construct defined as in claim 1, wherein the DNA construct is inserted into the vector;
- b) transforming plant cells with the ~~vector~~ expression system; and
- c) regenerating the transgenic plant from the plant cells to produce the target proteins in

seeds of the transgenic plant.

24. (Original) The method of claim 23, wherein said vector is a plasmid vector.
25. (Original) The method of claim 24, wherein said plasmid vector is a binary or superbinary vector.
26. (Original) The method of claim 25, wherein the vector is pSB130 or pBI121.
27. (Original) The method of claim 23, wherein the plant is tobacco or rice.
28. (Currently amended) The method of claim 27, wherein said plant cells are transformed utilizing an *Agrobacterium* system transfected with the expression system.
29. (Original) The method of claim 28, wherein said *Agrobacterium* system is an *Agrobacterium tumefaciens*-Ti plasmid system.